

0702	Truck; Manlift; 54 Foot; with out Lift Pedestal
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Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
I. General:		
1. This specification intends to describe the Department of Transportation's requirements for a manlift with service body.		
2. The service body shall be the manufacturers standard, galvanized, service body, meeting these specifications.		
3. Bidders shall provide a detailed measured drawing of the unit bid, to include all compartment dimensions, and a weight distribution analysis.		
4. Trade-In: The department desires to trade-in the aged unit(s) being replaced; Therefore, a trade-in offer is required for this purchase. WSDOT reserves the right to accept or reject any offer. If WSDOT elects to accept trade-in offers, a Best Buy evaluation methodology will be used to determine the purchase; whereas both the bid price and the trade-in offer will be taken into consideration to determine the overall best purchase for the state taxpayers. If the trade-in offer is not acceptable, only the bid price will be considered. If a trade-in offer is accepted, the seller agrees to invoice WSDOT the full bid amount of the unit(s) bid, and to write a check to the department for the trade-in unit.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
Shall be a International 7400 Cab and Chassis		
II. <u>Chassis, Load capacity and Measurements:</u>		
1. Chassis load rating shall be 36,000 lbs (GVWR).		
2. Wheel Base shall be determined by body vender.		
3. Cab to Axle (CA) shall be determined by body vender.		
III. <u>Frame:</u>		
1. The entire length of the frame rails shall be full depth.		
2. Both frame rails, from front to rear, shall be constructed with 110,000 psi steel, with a section modulus of 30.00 and an RBM of 3,300,000 in. lbs.		
3. The section modulus at the engine cut outs shall be at least 18.00, with an RBM of 2,000,000.		
4. There shall be no holes or bolts in the top flange of the frame rails, from the back of the cab to the trunnion.		
5. Cross-members shall not be riveted to the frame rails, however cross-member components may be riveted to form a cross-member assembly.		
6. Shall have a steel front bumper, with two front tow loops or hooks accessible through the bumper.		
IV. <u>Cab and Related Equipment:</u>		
1. Shall be a manufacturer's standard cab with at least 21 inches of clear space between the driver and passenger seat.		
2. Exterior of the Cab shall be painted with Sikkens 4039 (national safety yellow).		
3. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		

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4. When the hood and fenders are tilted forward, the grill shall not come in contact with the plow frame assembly.	<hr/>	<hr/>
5. There shall be a 10 gauge, 1/4 inch expanded metal stone guard, mounted behind the grill to protect the radiator.	<hr/>	<hr/>
6. The unit shall be equipped with the following: a. Engine voltmeter b. Engine oil pressure gauge. c. Tachometer, and Hour-meter. d. Engine coolant temperature gauge. e. High output heater w/fresh air selection. The heater shall have a BTU rating of at least 30,000. f. Sun visors for both driver and passenger. g. Factory installed air conditioning. h. Visual and audible low oil pressure / high coolant temperature warning system.	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
7. Dual, heated 6 x 16 inch rearview mirrors. The passenger side mirror shall be motorized. The mirrors shall be equipped with a 10-inch convex spot mirror.	<hr/>	<hr/>
8. Shall be equipped with an air horn.	<hr/>	<hr/>
9. Shall be equipped with cowl mounted, electric, intermittent, windshield wipers, to include a HD wiper motor(s).	<hr/>	<hr/>
10. The wiper linkage shall be a heavy-duty formed linkage. Pressed steel linkage is not acceptable.	<hr/>	<hr/>
11. The cab noise level shall not exceed 84 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed.	<hr/>	<hr/>
12. The cab interior package shall be an International Premium package. This includes, increased insulation on the floor, and the engine cover.	<hr/>	<hr/>
13. Shall be equipped with left and right egress / ingress assist handles.	<hr/>	<hr/>
14. Shall be equipped with an AM/FM Radio.	<hr/>	<hr/>

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V. <u>Radio Installation:</u>		
1. The cab shall be outfitted with a header pocket to accommodate an EF Johnson radio. (Part # 242-97-55-111.) The measurements of the radio are as follows:		
a. Width 7 ^{3/16} inches.		
b. Length 8 ^{5/16} inches.		
c. Thickness 2 ^{1/8} inches.		
2. The radio shall be located in a manner that allows the operator to read the LCD without detracting from road visibility. The radio shall be accessible by the operator and be within arms reach of an average person.		
3. When installed; the face of the radio shall not extend further than one inch out of the pocket.		
<i>Note: WSDOT will loan an EF Johnson radio to the successful bidder, as a production aid.</i>		
4. Within the radio pocket, there shall be a factory-installed radio-mounting bracket, which will accept the EF Johnson radio. The radio shall have the ability to be removed and re-installed without removing the header panel.		
5. To the left of the radio pocket, a microphone-mounting clip shall be installed.		
6. On the exterior of the cab roof, there shall be a factory installed Larson NMO-K-DS-FME antenna base. The specific mounting location shall provide the antenna with at least 18 inches of clear area around the antenna base and at the tip of the antenna when a body cab shield is used.		
7. The roof mount antenna base shall be sealed and capped with a protective cover for shipping.		
8. The antenna cable shall extend to the radio pocket, and extend at least six inches outside of the radio pocket.		
9. Above the rear window and centered in the cab, shall be a factory installed and functional two-way radio speaker for the EF J radio.		

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10. At the main fuse panel there shall be a labeled, dedicated, and <u>fused</u> , 15-amp constant duty circuit for the EFJ Radio. This circuit shall run directly from a battery power source. At the same location, there shall be a labeled 3 amp <u>fused</u> circuit. This circuit shall be switched at the ignition switch, and shall operate in the run or accessory positions.	<hr/>	<hr/>
11. Connected to the 15amp EFJ circuit shall be a power wire. (EFJ Part# 023-9750-010 or equal) This wire shall extend up to the header with no splices, and extend at least six inches outside of the pocket.	<hr/>	<hr/>
12. Connected to the 3 amp EFJ circuit shall be a sense wire. (EFJ Part # 023-9750-011 or equal) This wire shall extend up to the header, with no splices and extend at least six inches outside of the pocket	<hr/>	<hr/>
VI. <u>Seats</u>		
1. Driver's seat shall be a cloth covered high back National air ride seat.	<hr/>	<hr/>
2. Passenger seat shall be a cloth covered high back National high back, non-suspension.	<hr/>	<hr/>
3. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors.	<hr/>	<hr/>
VII. <u>Fuel Tank:</u>		
1. Shall have a 70 gallon fuel tank	<hr/>	<hr/>
2. Shall be equipped with two non-skid, raised expanded metal steps.	<hr/>	<hr/>
3. Shall be mounted on the left frame rail.	<hr/>	<hr/>
4. Shall not extend more than 6 inches past the back of the cab.	<hr/>	<hr/>

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IX. <u>Engine:</u>		
1. Shall be powered by a DT530E developing 275 H.P. at 2000-2200 RPM and 800 ft. lbs. of torque at 1200 RPM		
2. Shall be equipped with an exhaust brake.		
3. Electronic engine controls shall have the following settings:		
a. Maximum road speed to be 65 mph.		
b. Cruise control speed to be 60 mph.		
c. Automatic Idle shut down to be 10 minutes.		
d. Idle, Set 650, Resume 1,000.		
e. Shall have idle bump up/down feature.		
4. Shall be equipped with 1500 watt 110 volt block heater, with the plug-in receptacle located on the left side under the driver's door.		
X. <u>Air Cleaner</u>		
1. Shall be dual element, dry-type, with fresh air intake.		
2. A vacuum, needle gauge restriction indicator shall be mounted on the dash; and it must indicate restriction for both elements.		
3. The air cleaner lid shall have release latches or thumbscrews for quick and easy access to the air cleaner.		
XI. <u>Engine Cooling System:</u>		
1. Shall be equipped with a temperature controlled, air clutch fan drive		
2. Radiator shall be a cross flow, copper core, with deaeration system and coolant filter.		
3. Antifreeze protection shall be at least -35 °.		

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XII. <u>Engine Exhaust System:</u>		
1. Shall be a single horizontal muffler and vertical pipe.		
2. The end of the exhaust pipe shall have a 45-degree tip out, positioned 118 inches from the ground to the highest point of the tip out when the truck is empty.		
XIII. <u>Transmission</u>		
Shall be an Allison MD3560 six speed.		
XV. <u>Steering System:</u>		
1. Shall have a dual Shepherd power steering system.		
2. Steering wheel shall be 18 inches in diameter.		
3. Steering column shall be fully adjustable.		
XVI. <u>Wheels and Tires:</u>		
1. <i>Front wheels</i> shall be Hub Pilot with 385/65R 22.5 LRJ steel belted Goodyear tubeless tires.		
2. <i>Rear wheels</i> shall be Hub Pilot with Goodyear G164 RTD 11 R 22.5 LRG steel belted tires. The center hub shall have a thickness of at least .472 inches.		
XVII. <u>Brake System:</u>		
1. Shall be a Bendix anti-lock series air braking system.		
2. Shall have self-adjusting “S” cam air brakes front and rear, with shields installed.		
3. Shall have outboard mounted brake drums, with 16 ½ x 6-inch front drums and 16 ½ X 7 rear drums.		
4. Shall have 30 sq. In. MGM TR-T series rear brake chambers, and the chambers shall be tilted in the upward position for paver operations.		

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5. Shall have at least a 13 C.F.M. air compressors, with intake plumbed to the filtered side of the air cleaner.	<hr/>	<hr/>
6. Shall have the Rockwell Wabco System Saver 1200 air dryer.	<hr/>	<hr/>
7. Air tanks shall be mounted below the cab.		

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XV11 Aerial 1. Height to bottom of bucket: 49 ft. 2. Working height: 54 ft. 3. Horizontal reach from centerline: 36 ft.	 	
XVIII. <u>Stability:</u> Minimum tipping load with outriggers deployed and at full reach: 1. Level ground - 900 lbs. 2. 5 Degree slope - 800 lbs. 3. Completed unit shall be stability tested per ANSI A 92.2 specifications.	 	
XIX. <u>Hydraulic System:</u> 1. Hydraulic pump shall deliver 6 GPM at 2000 PSI. 2. Equipped with two-speed engine throttle at bucket and outrigger controls. 3. Oil reservoir shall be an integral part of pedestal and include filler cap and strainer and be designed for adequate cooling when operating hydraulic tools. 4. The equipment shall be provided with an air shift PTO system with in cab air controls. 5. <i>Upper Controls:</i> Single lever pistol grip type of control handle, to control rotation, outer boom elevation and extension. Lower boom, basket rotation to be on separate levers. 6. <i>Lower Controls:</i> Conventional handle control levers at pedestal that will over-ride the upper controls. 7. One (1)-air line at basket. 8. Emergency 12-volt hydraulic system for operation if main system malfunctions.	 	

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XX. <u>Mechanical System:</u>		
1. Boom unit shall be non-over-center, articulated aerial device with telescoping upper boom.		
2. Boom unit shall be mounted with booms positioned over truck cab and platform to rear of the truck chassis in the stowed position		
XXI. <u>Pedestal:</u>		
Pedestal shall be of welded steel construction with access doors for easy maintenance.		
XXII. <u>Turntable:</u>		
1. Turntable shall be rotated by hydraulic motor.		
2. Shear-ball rotation bearing shall provide 360 degrees continuous rotation.		
XXIII. <u>Outrigger:</u>		
1. Two (2) sets of outriggers shall be bolted or welded to the pedestal and to sub frame under the truck.		
2. Main outrigger to be "A" frame and rear outrigger to be straight down design with a 120 inch spread.		
3. Cylinders shall be equipped with pilot operated check valve and internal thermal relief valves.		
4. Outrigger controls shall be at rear left and right corners of body.		
XXIV. <u>Upper Boom:</u>		
1. Fiberglass boom constructed of molded reinforced polyester resin. To be one piece filament wound multi-layers of fiberglass and high impact strength polyester resins with polyurethane paint finish.		
2. Net insulation gap of 38" in fully retracted position.		
3. Boom travel from- 25 degrees to +82 degrees		

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4. Secured to boom rest via belt clamp. 5. Shall be dielectrically protected for category C under current ANSI A92.2-1990 standards.	 	
XXV. <u>Lower Boom:</u>		
1. Boom travel arc is to be 0 degrees to +90 degrees vertical. 2. Boom to be constructed of steel with a fiberglass section to provide a 24 "insulation gap.	 	
XXVI. <u>Platform & Leveling of Platform:</u>		
1. Bucket size shall be a rectangular two-man bucket, 24" x 48", all fiberglass end mounted. Vinyl cover to be provided. 2. Platform rated capacity minimum 600 lbs. 3. Bucket to be hydraulic rotated 180 degrees around the boom tip.	 	
XXVII. <u>Jib:</u>		
1. Removable 1,000 lb. capacity material handling jib. 2. Automatically levels with platform. 3. Manually adjustable jib pole to tilt in 10-degree increments from horizontal to a maximum of 50 degrees above horizontal. 4. Jib pole length adjustable for 35" to 42". 5. The Jib shall be rotateable on either side of boom at 30 degrees and 90 degrees.	 	
XXVIII. <u>Winch:</u>		
1. Hydraulic powered and self-locking through worm gear drive. 2. Rope 70' of 1/2 " diameter polyester rope.	 	

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XXX. <u>Service Body:</u>		
1. Shall be a line maintenance body.		
2. Overall width approximately 96", height approximately 48", inside width approximately 58", and length approximately 142", plus bumper and tail shelf.		
3. Body to be constructed from galvanized steel.		
4. Bin doors shall be double panel.		
5. Undercoating of the entire underside of the unit is required.		
6. All bin dimensions are approximate. Bidders must state exact sizes being offered and attach the addendum sheet to the bid.		
7. All bins shall have watertight doors with drip moldings above and drain holes with plugs in compartment bottoms.		
8. Latches shall have protection on the inside to prevent loose objects from jamming mechanism.		
9. All latches shall be "D" ring twist and keyed alike. Slam type latches are unacceptable.		
XXXI. <u>Streetside & Curbside Compartments:</u>		
1. All compartments shall be lighted with a Vista Track Lighting System. The lighting switch shall be cab controlled to include individual door switches on each door.		
2. The toolboxes on the curbside of the body from front to rear shall consist of one vertical cabinet, walk through, one vertical, one horizontal, and one vertical. The street side compartments shall consist of 3 vertical, one horizontal, and one vertical.		
3. All vertical cabinets shall measure approximately 20 inches in width and 47 inches in height.		
4. All horizontal cabinets shall measure approximately 58 inches in length and 24 inches in width.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
5. All vertical cabinets shall have three removable and adjustable shelves with dividers on 4-inch centers.	<hr/>	<hr/>
6. Shall have 4 hooks on all rear vertical compartments. Additionally there shall also be 4 hooks located on the curbside front vertical compartment.	<hr/>	<hr/>
7. All horizontal cabinets shall have one fixed shelf running full length of the cabinet.	<hr/>	<hr/>
8. Mounted on top of the Street-side compartments shall be a full length expanded metal storage bin with open top. Under this storage bin shall be a an additional storage bin for a telescoping ladder.	<hr/>	<hr/>
9. The unit shall be equipped with a 24" tail shelf with a removable pipe vise located on the curbside of the unit. The tail shelf shall have access doors on each end and the entire tail shelf shall be a through pocket.	<hr/>	<hr/>
XXXII. <u>Misc. Items:</u>		
1. Shall be equipped with an 8" Rear Step Bumper of minimum 5" structural channel, grip strut top surface reinforced for towing with Class III Receiver.	<hr/>	<hr/>
2. Provide outrigger pad storage under bins, one each side convenient to outriggers. Bidder shall provide outrigger pads.	<hr/>	<hr/>
3. Furnish and install a 10 lbs fire extinguisher on streetside, forward face of body.	<hr/>	<hr/>
4. Furnish and install mud flaps.	<hr/>	<hr/>
5. Provide (4) integral wheel chock storage under horizontal compartment adjacent/ attached to rear wheels. Contractor to supply (4) wheel chocks.	<hr/>	<hr/>
6. Curbside forward chock block holder to have a receiver to accept a removable pipe support bracket (for holding long conduit when using pipe vise).	<hr/>	<hr/>

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7. Access stairway entrance to bed shall have angles to retain a 20" x 20" plywood "slip in door." Angles shall be provided aft of stairway inside bed to store door when not in use.		
8. Place grab handles convenient to steps.		
9. Furnish and install cone holder on front and rear bumpers.		
XXXIII. <u>Electrical:</u>		
1. Furnish and install all legal lights and reflectors for body and rear of chassis.		
2. Light fixtures to be Trucklite hermetically sealed units.		
3. All attachment wiring is to be protected by using the Wired Rite System.		
4. Marker, license plate, and backup lights wiring shall be shielded.		
5. Two cab controlled amber rotating lights shall be located on posts at front of body so as to be visible from front and rear. The control switch will have a flashing red warning light and located next to outrigger warning light. Both lights shall be clearly labeled.		
6. Supply and install a 3000 watt Static 120-volt inverter. All wiring to inverter must be in loom and all 120-volt output wiring must be in conduit. Install one outlet at curbside rear of chassis. The outlet at rear of chassis must be a "Hubbell" 7535 with weatherproof cover. Equip the inverter with two remote controllers, one in main cab, and one weather-protected unit at rear of body, adjacent to rear outlet. Install inverter on the curbside on the top portion of the first cabinet. The inverter shall have a dedicated cabinet and the cabinet shall be vented to the outside.		
<i>Note: Bidders shall provide option pricing for an under hood aux. electric power inverter.</i>		

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<p>XXIX. Exterior Finish:</p> <p>WSDOT expects professional workmanship on all products purchased. With this in mind, the following finishing requirements will be closely scrutinized during the specification compliance inspection.</p> <ol style="list-style-type: none"> 1. There shall be no welding scale, roughness, sharp corners; or rust stains on the unit. 2. The unit shall be coated with 2 mils dry automotive quality primers, with an additional 2 mils dry of Sikkens (4039) or DuPont (7044) National Safety Yellow. 3. The body paint shall be warranted against rust and corrosion for five years. 4. The body floor, tail shelf, and compartment tops will be painted with a black, non-skid material to include a 5-year warranty against peeling. 5. Each side of the trailer shall be equipped with the WSDOT decals prior to the compliance inspection. The successful bidder will notify <u>Billboard Signs at 206-300-7300</u> for installation. The decaling will be invoiced to WSDOT by the installer. 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p>XXXV. Publications:</p> <ol style="list-style-type: none"> 1. Each unit shall be delivered with an operator's manual. 2. Bidders shall the Service, and Parts Manuals for this unit, as annotated below. <ul style="list-style-type: none"> <u>1</u> Parts Manual <u>1</u> Service Manual 	<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>